Release notes for ENDF/B Development n-014_Si_028 evaluation

April 26, 2017

- `fizcon` Warnings:
  1. Nested NC-type cov. OK
     MAT=1425, MF=33, MT= 4 (1): Is nested

```
 ERROR(S) FOUND IN MAT=1425, MF=33, MT=  4
    BAD NC-TYPE SUB-SUBSECTION
        CONFLICTS WITH SUB-SUBSECTION AT     0
        DERIVED MT=  1 USED AS AN MTI IN MT=  4
```

  2. Nested NC-type cov. OK
     MAT=1425, MF=33, MT= 4 (2): Is nested

```
 ERROR(S) FOUND IN MAT=1425, MF=33, MT=  4
No problems to report
```

- `psyche` Warnings:
  1. Strength function in URR not in agreement with PSYCHE's expectations
     FILE 2 / SECTION 151 / ISOTOPE MASS = 28. L = 0 / STRENGTH FUNCTION IS 6.16594E-05 / STRENGTH FUNCTION 6.16594E-05 / LIES OUTSIDE LIMITS 1.00000E-04 TO 9.00000E-04 (0): URR str. ftn.

```
FILE  2
   SECTION 151
        ISOTOPE MASS =  28. L =  0
                 STRENGTH FUNCTION IS  6.16594E-05
                                  STRENGTH FUNCTION 6.16594E-05
... [1 more lines]
```

  2. Gamma width not in agreement with PSYCHE's expectations
     FILE 2 / SECTION 151 / ISOTOPE MASS = 28. L = 1 / AT RESONANCE ENERGY 3.99680E+05 EV. THE GAMMA WIDTH 6.60000E-01 DEVIATES TOO MUCH FROM THE AVERAGE 5.72600E+00 (0): Gamma width

```
FILE  2
   SECTION 151
        ISOTOPE MASS =  28. L =  1
                 AT RESONANCE ENERGY  3.99680E+05 EV. THE GAMMA WIDTH  6.60000E-01 DEVIATES TOO MUCH FROM THE AV
```

  3. Gamma width not in agreement with PSYCHE's expectations
     FILE 2 / SECTION 151 / ISOTOPE MASS = 28. L = 1 / AT RESONANCE ENERGY 9.10040E+05 EV. THE GAMMA WIDTH 1.13000E+00 DEVIATES TOO MUCH FROM THE AVERAGE 5.72600E+00 (0): Gamma width

```
FILE  2
   SECTION 151
        ISOTOPE MASS =  28. L =  1
                 AT RESONANCE ENERGY  9.10040E+05 EV. THE GAMMA WIDTH  1.13000E+00 DEVIATES TOO MUCH FROM THE AV
```

- `fudge-4.0` Warnings:
  1. Unnormalized outgoing probability distribution
     reaction label 18: n + (Si28_c ->Si28 + gamma) / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Bad norm

```
WARNING: Unnormalized distribution! At energy_in = 9.3245e6 eV (index 0), integral = 0.5
WARNING: Unnormalized distribution! At energy_in = 9.5e6 eV (index 1), integral = 0.64496
WARNING: Unnormalized distribution! At energy_in = 1.e7 eV (index 2), integral = 0.916322
WARNING: Unnormalized distribution! At energy_in = 1.1e7 eV (index 3), integral = 0.9756852
        ... plus 7 more instances of this message
```

2. Unnormalized outgoing probability distribution
reaction label 19: n[multiplicity:'2'] + Si27 + gamma / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Bad norm

```
WARNING: Unnormalized distribution! At energy_in = 1.7797e7 eV (index 0), integral = 0.5
WARNING: Unnormalized distribution! At energy_in = 2.e7 eV (index 1), integral = 0.9445179125
WARNING: Unnormalized distribution! At energy_in = 1.5e8 eV (index 2), integral = 0.9445179125
```

3. Unnormalized outgoing probability distribution
reaction label 20: n + H1 + Al27 + gamma / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Bad norm

```
WARNING: Unnormalized distribution! At energy_in = 1.2004e7 eV (index 0), integral = 0.5
WARNING: Unnormalized distribution! At energy_in = 1.3e7 eV (index 1), integral = 0.8788993375
WARNING: Unnormalized distribution! At energy_in = 1.45e7 eV (index 2), integral = 0.937296875
WARNING: Unnormalized distribution! At energy_in = 1.6e7 eV (index 3), integral = 0.954108925
        ... plus 3 more instances of this message
```

4. Unnormalized outgoing probability distribution
reaction label 54: n + He4 + Mg24 + gamma / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Bad norm

```
WARNING: Unnormalized distribution! At energy_in = 1.0346e7 eV (index 0), integral = 0.5
WARNING: Unnormalized distribution! At energy_in = 1.2e7 eV (index 1), integral = 0.844506625
WARNING: Unnormalized distribution! At energy_in = 1.3e7 eV (index 2), integral = 0.91124555125
WARNING: Unnormalized distribution! At energy_in = 1.45e7 eV (index 3), integral = 0.9388477775
        ... plus 4 more instances of this message
```

5. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 0 (total): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

6. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 0 (total): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

7. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 0 (total): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

8. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 0 (total): / Form 'eval': / Component 4 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

9. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 1 (n + Si28): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

10. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 2 (nonelastic): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

11. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 2 (nonelastic): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

12. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 2 (nonelastic): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

13. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 4 (n[multiplicity:'2'] + Si27 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

14. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 4 (n[multiplicity:'2'] + Si27 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

15. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 4 (n[multiplicity:'2'] + Si27 + gamma): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

16. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 5 (n + He4 + Mg24 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

17. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 5 (n + He4 + Mg24 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

18. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 5 (n + He4 + Mg24 + gamma): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

19. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 5 (n + He4 + Mg24 + gamma): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

20. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 6 (n + H1 + Al27 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

21. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 6 (n + H1 + Al27 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

22. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 6 (n + H1 + Al27 + gamma): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

23. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 6 (n + H1 + Al27 + gamma): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

24. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 7 (n + Si28_e1): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

25. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 7 (n + Si28_e1): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

26. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 7 (n + Si28_e1): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

27. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 7 (n + Si28_e1): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

28. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 8 (n + Si28_e2): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

29. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 8 (n + Si28_e2): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

30. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 8 (n + Si28_e2): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

31. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 8 (n + Si28_e2): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

32. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 9 (n + Si28_e3): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

33. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 9 (n + Si28_e3): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

34. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 9 (n + Si28_e3): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

35. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 9 (n + Si28_e3): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

36. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 10 (n + Si28_e4): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

37. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 10 (n + Si28_e4): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

38. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 10 (n + Si28_e4): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

39. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 10 (n + Si28_e4): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

40. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 11 (n + Si28_e5): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

41. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 11 (n + Si28_e5): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

42. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 11 (n + Si28_e5): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

43. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 11 (n + Si28_e5): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

44. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 12 (n + Si28_e6): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

45. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 12 (n + Si28_e6): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

46. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 12 (n + Si28_e6): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

47. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 12 (n + Si28_e6): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

48. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 13 (n + Si28_e7): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

49. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 13 (n + Si28_e7): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

50. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 13 (n + Si28_e7): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

51. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 13 (n + Si28_e7): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

52. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 14 (n + Si28_e8): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

53. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 14 (n + Si28_e8): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

54. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 14 (n + Si28_e8): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

55. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 14 (n + Si28_e8): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

56. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 15 (n + Si28_e9): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

57. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 15 (n + Si28_e9): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

58. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 15 (n + Si28_e9): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

59. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 15 (n + Si28_e9): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

60. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 16 (n + Si28_e10): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

61. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 16 (n + Si28_e10): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

62. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 16 (n + Si28_e10): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

63. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 16 (n + Si28_e10): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

64. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 17 (n + Si28_e11): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

65. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 17 (n + Si28_e11): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

66. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 17 (n + Si28_e11): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

67. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 17 (n + Si28_e11): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

68. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 18 (n + Si28_e12): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

69. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 18 (n + Si28_e12): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

70. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 18 (n + Si28_e12): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

71. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 18 (n + Si28_e12): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

72. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 19 (n + Si28_e13): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

73. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 19 (n + Si28_e13): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

74. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 19 (n + Si28_e13): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

75. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 19 (n + Si28_e13): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

76. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 20 (n + Si28_e14): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

77. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 20 (n + Si28_e14): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

78. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 20 (n + Si28_e14): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

79. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 20 (n + Si28_e14): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

80. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 21 (n + Si28_e15): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

81. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 21 (n + Si28_e15): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

82. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 21 (n + Si28_e15): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

83. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 21 (n + Si28_e15): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

84. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 22 (n + Si28_e16): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

85. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 22 (n + Si28_e16): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

86. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 22 (n + Si28_e16): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

87. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 22 (n + Si28_e16): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

88. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 23 (n + Si28_e17): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

89. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 23 (n + Si28_e17): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

90. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 23 (n + Si28_e17): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

91. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 23 (n + Si28_e17): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

92. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 24 (n + (Si28_c ->Si28 + gamma)): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

93. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 24 (n + (Si28_c ->Si28 + gamma)): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

94. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 24 (n + (Si28_c ->Si28 + gamma)): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

95. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 24 (n + (Si28_c ->Si28 + gamma)): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

96. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 25 (Si29 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

97. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 25 (Si29 + gamma): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

98. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 25 (Si29 + gamma): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

99. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 26 ((z,p)): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

100. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 26 ((z,p)): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

101. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 26 ((z,p)): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

102. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 26 ((z,p)): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

103. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 27 ((z,alpha)): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

104. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 27 ((z,alpha)): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

105. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 27 ((z,alpha)): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

106. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 27 ((z,alpha)): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

- `fudge-4.0` Errors:

1. Calculated and tabulated Q values disagree.
reaction label 19: n[multiplicity:'2'] + Si27 + gamma (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -16912176.55951309 eV vs -1.7177e7 eV!
```

2. Calculated and tabulated Q values disagree.
reaction label 20: n + H1 + Al27 + gamma (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -11428734.74340057 eV vs -1.1586e7 eV!
```

3. Calculated and tabulated Q values disagree.
reaction label 21: H1 + Al28 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -3912211.828063965 eV vs -3.86e6 eV!
```

4. Energy range of data set does not match cross section range
reaction label 21: H1 + Al28 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (3999200.0 -> 150000000.0) vs (3999160.0 -> 150000000.0)
```

5. Calculated and tabulated Q values disagree.
reaction label 22: H1 + Al28_e1 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -3943211.828063965 eV vs -3.891e6 eV!
```

6. Energy range of data set does not match cross section range
reaction label 22: H1 + Al28_e1 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (4031300.0 -> 150000000.0) vs (4031280.0 -> 150000000.0)
```

7. Calculated and tabulated Q values disagree.
reaction label 23: H1 + Al28_e2 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4884211.828063965 eV vs -4.832e6 eV!
```

8. Energy range of data set does not match cross section range
reaction label 23: H1 + Al28_e2 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (5006200.0 -> 150000000.0) vs (5006210.0 -> 150000000.0)
```

9. Calculated and tabulated Q values disagree.
reaction label 24: H1 + Al28_e3 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4926211.828063965 eV vs -4.874e6 eV!
```

10. Energy range of data set does not match cross section range
reaction label 24: H1 + Al28_e3 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (5049700.0 -> 150000000.0) vs (5049720.0 -> 150000000.0)
```

11. Calculated and tabulated Q values disagree.
reaction label 25: H1 + Al28_e4 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -5285211.828063965 eV vs -5.233e6 eV!
```

12. Energy range of data set does not match cross section range
reaction label 25: H1 + Al28_e4 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (5421700.0 -> 150000000.0) vs (5421660.0 -> 150000000.0)
```

13. Calculated and tabulated Q values disagree.
reaction label 26: H1 + Al28_e5 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -5532211.828063965 eV vs -5.48e6 eV!
```

14. Energy range of data set does not match cross section range
reaction label 26: H1 + Al28_e5 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (5677600.0 -> 150000000.0) vs (5677570.0 -> 150000000.0)
```

15. Calculated and tabulated Q values disagree.
reaction label 27: H1 + Al28_e6 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -5535211.828063965 eV vs -5.483e6 eV!
```

16. Energy range of data set does not match cross section range
reaction label 27: H1 + Al28_e6 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (5680700.0 -> 150000000.0) vs (5680680.0 -> 150000000.0)
```

17. Calculated and tabulated Q values disagree.
reaction label 28: H1 + Al28_e7 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6051211.828063965 eV vs -5.999e6 eV!
```

18. Energy range of data set does not match cross section range
reaction label 28: H1 + Al28_e7 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (6215300.0 -> 150000000.0) vs (6215280.0 -> 150000000.0)
```

19. Calculated and tabulated Q values disagree.
reaction label 29: H1 + Al28_e8 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6114211.828063965 eV vs -6.062e6 eV!
```

20. Energy range of data set does not match cross section range
reaction label 29: H1 + Al28_e8 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (6280600.0 -> 150000000.0) vs (6280550.0 -> 150000000.0)
```

21. Calculated and tabulated Q values disagree.
reaction label 30: H1 + Al28_e9 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6184211.828063965 eV vs -6.132e6 eV!
```

22. Energy range of data set does not match cross section range
reaction label 30: H1 + Al28_e9 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (6353100.0 -> 150000000.0) vs (6353080.0 -> 150000000.0)
```

23. Calculated and tabulated Q values disagree.
reaction label 31: H1 + Al28_e10 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6397211.828063965 eV vs -6.345e6 eV!
```

24. Energy range of data set does not match cross section range
reaction label 31: H1 + Al28_e10 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (6573800.0 -> 150000000.0) vs (6573760.0 -> 150000000.0)
```

25. Calculated and tabulated Q values disagree.
reaction label 32: H1 + Al28_e11 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6493211.828063965 eV vs -6.441e6 eV!
```

26. Energy range of data set does not match cross section range
reaction label 32: H1 + Al28_e11 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (6673200.0 -> 150000000.0) vs (6673220.0 -> 150000000.0)
```

27. Calculated and tabulated Q values disagree.
reaction label 33: H1 + Al28_e12 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6568211.828063965 eV vs -6.516e6 eV!
```

28. Energy range of data set does not match cross section range
reaction label 33: H1 + Al28_e12 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (6750900.0 -> 150000000.0) vs (6750920.0 -> 150000000.0)
```

29. Calculated and tabulated Q values disagree.
reaction label 34: H1 + Al28_e13 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6899211.828063965 eV vs -6.847e6 eV!
```

30. Energy range of data set does not match cross section range
reaction label 34: H1 + Al28_e13 / Product: H1 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (7093900.0 -> 150000000.0) vs (7093850.0 -> 150000000.0)
```

31. Calculated and tabulated Q values disagree.
reaction label 35: H1 + (Al28_c ->Al28 + gamma) (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6912211.828063965 eV vs -6.86e6 eV!
```

32. Calculated and tabulated Q values disagree.
reaction label 36: He4 + Mg25 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2083631.838546753 eV vs -2.65e6 eV!
```

33. Energy range of data set does not match cross section range
reaction label 36: He4 + Mg25 / Product: He4 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (2745500.0 -> 150000000.0) vs (2745540.0 -> 150000000.0)
```

34. Calculated and tabulated Q values disagree.
reaction label 37: He4 + Mg25_e1 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2668631.838546753 eV vs -3.235e6 eV!
```

35. Energy range of data set does not match cross section range
reaction label 37: He4 + Mg25_e1 / Product: He4 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (3351600.0 -> 150000000.0) vs (3351630.0 -> 150000000.0)
```

36. Calculated and tabulated Q values disagree.
reaction label 38: He4 + Mg25_e2 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -3058631.838546753 eV vs -3.625e6 eV!
```

37. Energy range of data set does not match cross section range
reaction label 38: He4 + Mg25_e2 / Product: He4 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (3755700.0 -> 150000000.0) vs (3755690.0 -> 150000000.0)
```

38. Calculated and tabulated Q values disagree.
reaction label 39: He4 + Mg25_e3 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -3695631.838546753 eV vs -4.262e6 eV!
```

39. Energy range of data set does not match cross section range
reaction label 39: He4 + Mg25_e3 / Product: He4 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (4415700.0 -> 150000000.0) vs (4415660.0 -> 150000000.0)
```

40. Calculated and tabulated Q values disagree.
reaction label 40: He4 + Mg25_e4 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4048631.838546753 eV vs -4.615e6 eV!
```

41. Energy range of data set does not match cross section range
reaction label 40: He4 + Mg25_e4 / Product: He4 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (4781400.0 -> 150000000.0) vs (4781380.0 -> 150000000.0)
```

42. Calculated and tabulated Q values disagree.
reaction label 41: He4 + Mg25_e5 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4647631.838546753 eV vs -5.214e6 eV!
```

43. Energy range of data set does not match cross section range
reaction label 41: He4 + Mg25_e5 / Product: He4 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (5402000.0 -> 150000000.0) vs (5401980.0 -> 150000000.0)
```

44. Calculated and tabulated Q values disagree.
reaction label 42: He4 + Mg25_e6 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4821631.838546753 eV vs -5.388e6 eV!
```

45. Energy range of data set does not match cross section range
reaction label 42: He4 + Mg25_e6 / Product: He4 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (5582300.0 -> 150000000.0) vs (5582250.0 -> 150000000.0)
```

46. Calculated and tabulated Q values disagree.
reaction label 43: He4 + Mg25_e7 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -4884631.838546753 eV vs -5.451e6 eV!
```

47. Energy range of data set does not match cross section range
reaction label 43: He4 + Mg25_e7 / Product: He4 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (5647500.0 -> 150000000.0) vs (5647520.0 -> 150000000.0)
```

48. Calculated and tabulated Q values disagree.
reaction label 44: He4 + Mg25_e8 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -5488631.838546753 eV vs -6.055e6 eV!
```

49. Calculated and tabulated Q values disagree.
reaction label 45: He4 + Mg25_e9 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -5497631.838546753 eV vs -6.064e6 eV!
```

50. Energy range of data set does not match cross section range
reaction label 45: He4 + Mg25_e9 / Product: He4 / Distribution: / angularTwoBody - XYs2d: (Error # 0): Domain mismatch (a)

```
WARNING: Domain doesn't match the cross section domain: (6282600.0 -> 150000000.0) vs (6282620.0 -> 150000000.0)
```

51. Calculated and tabulated Q values disagree.
reaction label 46: He4 + Mg25_e10 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -5991631.838546753 eV vs -6.558e6 eV!
```

52. Calculated and tabulated Q values disagree.
reaction label 47: He4 + Mg25_e11 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6054631.838546753 eV vs -6.621e6 eV!
```

53. Calculated and tabulated Q values disagree.
reaction label 48: He4 + Mg25_e12 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6143631.838546753 eV vs -6.71e6 eV!
```

54. Calculated and tabulated Q values disagree.
reaction label 49: He4 + Mg25_e13 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6360631.838546753 eV vs -6.927e6 eV!
```

55. Calculated and tabulated Q values disagree.
reaction label 50: He4 + Mg25_e14 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6442631.838546753 eV vs -7.009e6 eV!
```

56. Calculated and tabulated Q values disagree.
reaction label 51: He4 + Mg25_e15 (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6794631.838546753 eV vs -7.361e6 eV!
```

57. Calculated and tabulated Q values disagree.
reaction label 52: He4 + (Mg25_c ->Mg25 + gamma) (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -6883631.838546753 eV vs -7.45e6 eV!
```

58. Calculated and tabulated Q values disagree.
reaction label 53: Si29 + gamma (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: 8857561.635288239 eV vs 8.4739e6 eV!
```

59. Calculated and tabulated Q values disagree.
reaction label 54: n + He4 + Mg24 + gamma (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -9562572.139312744 eV vs -9.9856e6 eV!
```

60. Calculated and tabulated Q values disagree.
reaction label 55: H2 + Al27_s (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -9211360.43680191 eV vs -9.3613e6 eV!
```

61. Multiplicity does not match sum of linked product multiplicities!
multiplicitySum label 6: Si29 + gamma total gamma multiplicity (Error # 0): summedMultiplicityMismatch

```
WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 0.33%
```

62. A summed covariance refers to another which refers back to the first which refers the second which refers to the first which refers to the ...
(Error # 4): Cyclic

```
n-014_Si_028.endf: WARNING: Cyclic dependency in summed covariances for sections /covarianceSuite/section[@label
```

- `njoy2012` Warnings:

1. Message comes from several resonance types that do not support the calculation of angular distributions. Some of them can be used if `Want_SAMRL_RM or Want_SAMRML_BW are true.`
reconr...reconstruct pointwise cross sections in pendf format (0): RECONR/calculation of angular distribution not installed (0)

```
 ---message from rdf2bw---calculation of angular distribution not installed.
   samm max legendre order:  0
```

2. Evaluation has no unresolved resonance parameters given
   unresr...calculation of unresolved resonance cross sections (0): No URR

```
 ---message from unresr---mat 1425 has no unresolved parameters
                          copy as is to nout
```

3. Evaluation has no unresolved resonance parameters given
   purr...probabalistic unresolved calculation (0): No URR

```
 ---message from purr---mat 1425 has no unresolved parameters
                          copy as is to nout
```

4. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (0): ACER/check energy distributions (0)

```
 check energy distributions
   consis: ep.gt.epmax 9.316141E-12 with q.lt.0 for (n,x) at e  1.000000E-11 -> 1.000000E-11
```

5. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (1): ACER/check energy distributions (0)

```
 check energy distributions
   consis:   awr.lt.180---this is probably an error.
```

6. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (2): ACER/check energy distributions (0)

```
 check energy distributions
   consis: shifting eprimes greater than epmax and renorming the distribution
```

7. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (3): ACER/check energy distributions (0)

```
 check energy distributions
   consis: ep.gt.epmax 1.863228E+01 with q.lt.0 for (n,x) at e  2.000001E+01 -> 1.906272E+01
```

8. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (4): ACER/check energy distributions (0)

```
 check energy distributions
   consis:   awr.lt.180---this is probably an error.
```

9. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (5): ACER/check energy distributions (0)

```
 check energy distributions
   consis: shifting eprimes greater than epmax and renorming the distribution
```

10. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (6): ACER/check energy distributions (0)

```
 check energy distributions
   consis: ep.gt.epmax 2.608519E+01 with q.lt.0 for (n,x) at e  2.800000E+01 -> 2.630173E+01
```

11. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (7): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

12. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (8): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

- `acelst` Warnings:

  1. The incident energy grid is not monotonic for this angular distribution
     0: Bad Ang. Dist.

```
ACELST WARNING - Processing Ang.Dist.MT         2
                 E-grid non-monotonic   2.000000000E+01 2.000000000E+01
```

- `xsectplotter` Errors:

  1. Exception AttributeError was thrown
     /usr/local/lib/python2.7/site-packages/matplotlib-1.5.3-py2.7-linux-x86_64.egg/matplotlib/font_manager.py:2
     UserWarning: Matplotlib is building the font cache using fc-list. This may take a moment. (Error # 2): AttributeError

```
AttributeError: 'NoneType' object has no attribute 'rowData'
```